

### REMARKS

Applicant respectfully requests reconsideration of this application, and reconsideration of the Office Action dated June 30, 2005. Upon entry of this Amendment, claims 1 and 3-8 will remain pending in this application. The changes to claim 1 are supported by the specification and original claims (e.g. page 14, lines 1-5 and 7-12). No new matter is incorporated by this Amendment.

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The abstract was objected to because of a typographical error. In response, Applicant submits a new replacement Abstract of the Disclosure wherein the previous typographical error has been corrected. Withdrawal of this objection is thus respectfully requested.

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Claim 1 was rejected under 35 U.S.C. 112, second paragraph, as indefinite. Specifically, the Office Action asserted the claim was confusing regarding whether the carbon black, the coloring agent or both have the oil absorption capability. In response, Applicant has amended claim 1 in a manner that overcomes this rejection. Withdrawal of this rejection is thus respectfully requested.

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Claims 1-8 were rejected under 35 U.S.C. §103(a) as obvious based on Hamano (U.S. Pat. No. 6,500,594). Applicant respectfully traverses.

Independent claim 1 (from which claim 3-8 depend) concerns a toner for use in an oil-less fixing system free from an oil coating on a fixing roller. A preferred embodiment of the invention includes a toner having a binder resin that has a rate of decrease of storage elastic modulus  $G'$  of not more than 0.3 Pa/C as determined in association with temperature increase in the range of 160 to 200°C and a weight average molecular weight [Mw] in the range of 10,000 to 200,000 and an [Mw/Mn] ratio between [Mw] and a

number average molecular weight [Mn] of the binder resin in the range of 3 to 12. As is shown in the Comparative Example and Tables in the present specification, the toners made according to the present invention show improved fixing performance and releasability.

Hamano discloses a toner having a storage elastic modulus  $G_L(30)$  of  $1 \times 10^6$  Pa or more. However, Hamano is silent as to the toner having a rate of decrease of storage elastic modulus of the binder resin in the increased temperature for use in an oil-less fixing system. Moreover, Hamano neither teaches nor fairly suggests (i.e., the limited information in Hamano does not support the obviousness assertion in the Office Action) employing a binder that has a rate of decrease of storage elastic modulus  $G'$  of not more than  $0.3 \text{ Pa}/^\circ\text{C}$  as determined in association with the temperature increase in the range of  $160$  to  $200^\circ\text{C}$  as recited in claim 1. In addition, Applicants submit that Hamano neither teaches nor fairly suggests employing a binder having an  $[M_w/M_n]$  ratio in the range of 3 to 12. Hamano thusly fails to teach or fairly suggest each and every feature of independent claim 1. Furthermore, there is nothing in the teachings of Hamano which would motivate those of ordinary skill in the art to employ a binder having the above recited characteristics in a toner.

In view of the above remarks, Applicant submits this rejection is overcome and requests it be withdrawn.

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Claims 1-8 were rejected under 35 U.S.C. §103(a) as obvious based on Onuma (U.S. Pat. No. 5,968,701). Applicants also respectfully traverses this rejection.

Onuma discloses a toner having (a) a storage modulus  $G'$  ( $160^\circ\text{C}$ ) of  $8.0 \times 10^2$  -  $1.2 \times 10^4$  Pa at  $160^\circ\text{C}$  and (b) a storage modulus  $G'$  ( $190^\circ\text{C}$ ) of  $6.0 \times 10^2$  -  $1.0 \times 10^4$  Pa at  $190^\circ\text{C}$ . From these numbers, Applicant respectfully submits that it is clear that the rate of

decreases of storage elastic modulus  $G'$  is much higher than the  $0.3 \text{ Pa}/^\circ\text{C}$  as determined with temperature increase in the range of  $160$  to  $200^\circ\text{C}$  as recited in the present invention. For example, in the toners shown in the Onuma patent (e.g. Toner 2 of Table 1) the  $\text{Pa}/^\circ\text{C}$  value is calculated to be  $3.33$  which is higher than that of the present claims. This is because the  $G'$  values of Onuma are  $4900 \text{ Pa}$  at  $160^\circ\text{C}$  and  $4800 \text{ Pa}$  at  $190^\circ\text{C}$ . Applicant notes that of toners 1-27 shown in the Onuma patent, Toner 2 represents the toner having the least difference between  $G'$  at  $160^\circ\text{C}$  and  $G'$  at  $190^\circ\text{C}$ . This being the case, Onuma fails to teach or fairly suggest employing a binder resin having a rate of decrease of storage elastic modulus  $G'$  of not more than  $0.3 \text{ Pa}/^\circ\text{C}$  as recited in present claim 1. In addition, Onuma also neither teaches nor fairly suggests employing a binder having an  $[M_w/M_n]$  ratio in the range of 3 to 12. Onuma thusly fails to teach or fairly suggest each and every feature of independent claim 1. Furthermore, there is nothing in the teachings of Onuma which would motivate those of ordinary skill in the art to employ a binder having the above recited characteristics in a toner.

In view of the above remarks, Applicant submits this rejection is overcome and request it be withdrawn.

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Applicant respectfully submits this Amendment and the above remarks obviate the outstanding objection and rejections in this case, thereby placing the application in condition for immediate allowance. Allowance of this application is earnestly solicited.

If any fees under 37 C.F.R. §§1.16 or 1.17 are due in connection with this filing, please charge the fees to Deposit Account No. 02-4300; Order No. 032739.088.

If an extension of time under 37 C.F.R. §1.136 is necessary that is not accounted for in the papers filed herewith, such an extension is requested. The extension fee should be charged to Deposit Account No. 02-4300; Order No. 032739.088.

Respectfully submitted,  
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